

ABSTRACT

Ball-and-roller bearing parts are alloyed with 0.6% to 1.3% by weight of C, 0.3% to 3.0% by weight of Si, 0.2% to 5 1.5% by weight of Mn, 0.03% by weight or less of P, 0.03% by weight or less of S, 0.3% to 5.0% by weight of Cr, 0.1% to 3.0% by weight of Ni, 0.050% by weight or less of Al, 0.003% by weight or less of Ti, 0.0015% by weight or less of O, and 0.015% by weight or less of N with the remainder being made 10 up of Fe and inevitable impurities. The part has a nitrogen-enriched layer. The austenite crystals of the steel have a grain size number of greater than 10.